



**Dave Freudenthal**  
Governor

**Jim Narva**  
Chairman

# State of Wyoming

## Public Safety Communication Commission

Meeting September 13, 2005  
Casper College – College Center – Room 217  
125 College Drive  
Casper, WY

### Minutes

Chairman Jim Narva called the Public Safety Communications Commission meeting to order at 10:10 am on September 13, 2005. Chairman Narva welcomed those in attendance. Since Chairman Narva was on the speakerphone, he asked Steve DeCecco to chair the meeting.

#### Roll taken and members in attendance:

Steve DeCecco – Game and Fish  
Dave Mattis – Sheriff's Association  
Jerry Kennedy – County Government  
Mark Harshman – Fire Chief's Association  
Robert Dean – Department of Health  
Mark Joiner – Federal Government – BLM  
Kelly Hamilton – Livestock Board  
Bill Westerfield – State Parks and Cultural Resources  
Robert Wyatt – Public at Large  
Jim Narva – State Fire Marshal - speakerphone – logged off at 12:10 pm  
Kim Lee – Office of Homeland Security - speakerphone – logged off at 12:10 pm  
Billy Janes – Police Chief's Association – excused at 12:10 pm  
Russ Christensen – EMS -- excused at 12:10 pm

#### Members absent:

Sam Powell – WyDOT (excused)  
Neal Kourbelas – Municipal Government (excused)  
Kebin Haller – DCI (excused)  
Earl Atwood – Executive Director PSSC (excused)  
Tribal Government not yet appointed

#### Others in attendance:

Robert Symons – PSSC Administrative Support  
Tom Mahon – WyoLink Project Manager  
Larry Sheridan – WyDOT Telecom  
Craig Post – ComTech

Ted Higgins - ComTech  
Jim Archerd – Wyoming Office of Homeland Security  
Dan Perko – WYAPCO and State Forestry  
Bill Fleming – Motorola  
Barb May - Motorola  
Debbi Serke – Motorola  
Dick Bolin – WHP Dispatch  
Patty Bauer – WHP Dispatch  
Bob Bushey – Data Radio  
Mike Card – Sheridan Police Dept.  
Jennifer Shassetz – Sheridan Police Dept.  
Mark Sexton – Progress Marketing Group

The commission welcomed Robert Wyatt, an attorney from Sheridan and co-chair of the PSMC Steering Committee as a PSCC commissioner representing the public at large.

#### **Proposed Agenda – Changes, Deletions, and Approval:**

The proposed agenda was reviewed with one change, the approval of the June 13, 2005 minutes not the March 22, 2005 minutes. Having no other changes to the proposed agenda, the agenda was approved.

#### **Approval of March 22, 2005 minutes:**

Chairman DeCecco called for corrections and/or changes to the minutes of the June 13, 2005 meeting. The Commission members have received the minutes via e-mail. One correction was noted – add Kelly Hamilton to those members that were absent. **Commissioner Billy Janes made a motion to approve and accept the amended minutes from the June 13, 2005 meeting. Commissioner William Westerfield seconded the motion. Motion carried.**

#### **Working Groups Reports:**

##### WyoLink Operations Workgroup: Commissioner Kennedy

The WyoLink Operations Workgroup met once on July 13, 2005 at the WyoLink Office in Cheyenne to discuss the policy on WyoLink radio coverage.

##### Administration/Funding Group: Chairman DeCecco

The Executive Committee has met a couple of times and the Administrative/Funding Group is the Executive Committee plus a representative from the County Commissioners Association and the Wyoming Association of Municipalities. The Administrative/Funding Group has not met since the June 13, 2005 meeting.

##### Spectrum Group: Commissioner Joiner

The Spectrum Working Group has not met since the June 13, 2005 meeting. The workgroup gave official concurrence to Region 12 (Idaho) and Region 41 (Utah) 700MHz plans and dispute resolutions. The 700 MHz and 800 MHz Regional Planning Committees (part of the Spectrum Workgroup) will meet November 14<sup>th</sup> at the Casper Holiday Inn on the River with the 700 MHz meeting at 2:00 pm and the 800 MHz meeting at 3:00 pm. This meeting is in conjunction with the Wyoming APCO Meeting. The 800 MHz RPC will discuss the 800 MHz Re-band process. The 700 MHz RPC will review Region 42's (Wyoming) draft 700 MHz Plan.

While at the National APCO Meeting in Denver we met with representatives from NTIA. They suggested we set up a symposium to discuss resource sharing, in relation to WyoLink, between the Federal and the State Governments. The symposium was to be scheduled for October but it was requested it be delay till 2006 because of Hurricane Katrina. It was suggested that Tom Mahon (Project Manager) write a letter to Tim Quinn (USDI Chief of Telecommunications) to discuss the possibly of resource sharing with WyoLink. This was suggested because if resources were made available they could be incorporated into the WyoLink project without causing a delay.

#### SALECS Workgroup – Commissioner Westerfield

The SALECS Working Group met on September 6, 2005 at the WHP Conference Room. Attending were Bill Westerfield, Steve DeCecco, Patty Bauer, Dick Bolin, Kevin Hibbard, and Angie Buchanan.

Mr. Hibbard presented an overview of how the current SALECS system funding is calculated, based on a formula of system usage and the number of radios each participating agency has, and the actual operating expenses for personnel and equipment. He stated that WYDOT had made the decision to fund the construction of the backbone of the new WyoLink system, so the SALECS user agencies would not bear that expense. However any new facilities required by an agency would be the responsibility of that agency. The SALECS users would continue to fund the system as they have been in the recent past.

We discussed the FY 2007/2008 biennium budget request as submitted by WYDOT, and Mr. Hibbard explained how WYDOT was tracking the billing for the SALECS expenses.

We discussed the progress of the new equipment installation in the dispatch center.  
*The SALECS 2005 Statistics are attached to file copy of minutes.*

#### Inter-Operability Executive Committee – Commissioner Janes

The Inter-Operability Executive Committee has met twice – August 4, 2005 and September 13, 2005. The Inter-Operability Committee has developed some working drafts related to a handbook, membership agreement and talkgroups. The committee will continue working on these drafts and have a goal to present the drafts to the Commission in December.

#### WyoLink Infrastructure Report – Tom Mahon

As a general statement, the WyoLink project is progressing and a number of issues that have been challenges are beginning to be resolved.

##### *Project Delays*

Three issues have contributed to Project delay.

First, a tower contractor defaulted and filed bankruptcy. A replacement contractor has been retained and is now working.

Second, the scope of work and complexity of the frequency acquisition process was found to be greater than anticipated in the PSMC Plan. A revised frequency acquisition process has been defined and the required change order should be completed this week.

Third, expansion of the Site equipment room has delayed activation of the master site. The expansion construction has been completed. WyDOT has gone to bid for a contractor to install the necessary HVAC, electrical, and fire suppression upgrades. That bid opening will occur at 11 a.m. today.

### *Pilot Phase Status*

The 85-South radio site and the Russell Hill site are installed and fully optimized. The North Albin site and the Whitcomb site have been constructed and optimization is taking place today. The 85-South radio site was on the air in time for Cheyenne Frontier Days and some trial use did occur.

The Sherman Hill site has experienced some delay. At this point, the frequency plan has been locked with six channels instead of the intended seven channels. The seventh channel will be added later when the frequency engineering for that channel is completed. RF combining equipment has been ordered but delivery is still a few weeks away. Replacement of the upper guy wires has been completed by the new tower contractor. The construction contractor should be installing the new building next week. Antenna installation will take place even while the building is being installed to save time. Completion of the Sherman site is anticipated before the end of October.

The Master Site electrical power is the other potential delay for the Pilot Phase. To save \$68,000 the UPS and HVAC equipment were sized to support WyoLink and the new dispatch console. Late in the upgrade design process it was discovered that the electrical power to the building was insufficient to support the upgrade. A new power transformer for the building has been ordered. The UPS will be commissioned with reduced input-amperage to expedite the Pilot Phase. The Master Site equipment installation is beginning today.

### *Phase-2 Status*

Phase-2 will add 10 radio sites to WyoLink. The sites are identified on the accompanying map. The sites were selected based on scheduled completion of microwave and radio site upgrade work. You may note that Shirley Mountain did not make it into phase-2, and would represent a gap in coverage. Shirley Mountain requires a new building and electrical power upgrade, which will not be completed until next year when weather again allows access.

The phase-2 development plan calls for the installation of non-frequency specific equipment, such as antennas, as soon as possible. Frequency-critical equipment will be ordered and installed following completion of the frequency engineering work. The latter tasks will take place inside equipment building and, with some exceptions, could proceed even during freezing weather. This approach is intended to maximize the present good weather and mitigate delay associated with reworking the frequency acquisition process.

### *Frequency Acquisition*

It became apparent that the frequency acquisition process represented a risk to the project and a critical-path issue for the project schedule. A significant effort was invested in reworking the frequency acquisition process. A separate, detailed, report on the issue has been provided to the PSCC and will be addressed under new business later in this meeting. A change-order to Motorola for frequency engineering services is being negotiated and should be completed this week.

### *2006 Funding Request*

A significantly revised funding request was assembled based on issues discussed at the June PSCC meeting. Recommendations were presented to the PSCC Executive Committee for review and thereafter submitted as part of the WyDOT budget request. That budget and supporting documents have been provided to the PSCC later in this meeting.

### *Intent To Participate*

A request for "Intent to Participate" and "Agency Profile" information was sent out using the e-mail distribution list. The 20 agency responses have been received. A more comprehensive mailing list has been assembled, representing public safety agencies throughout Wyoming, and will be used to repeat the request for information that the level of local agency participation may be more accurately estimated. This information will not only aid WyoLink planning but will be helpful in representing the importance of WyoLink to decision makers.

### *System Map*

I have provided a system map with this report for your information. The five sites marked with squares are the Pilot Phase. The sites with an underline below the name will be developed during phase-2. Sites that do not have a name are microwave-only locations and will not be part of WyoLink. Microwave system paths are

depicted on the map; paths marked with light blue lines are proposed additions that will provide alternate routing to increase system reliability. Other reliability and capacity upgrades are planned but are depicted on this map. *The system map is attached to file copy of minutes*

## Old Business

### Radio Inventory and Negotiated Pricing Agreement

Bob Symons provided the following radio sales summary to the Commission.

	Dollars spent to date	PSMC Plan	Units Purchased	PSMC Plan
Base Stations/Repeaters	\$ 596,652.00		36	
Control Stations	\$ 718,398.00	\$1,633,050.00	116	270
Mobile Radios	\$ 5,323,824.43	\$19,530,000.00	1459	6300
Other Equipment	\$ 128,580.00		66	
Portable Radios	\$ 3,195,611.68	\$12,000,000.00	1363	5000

Commissioner Joiner stated the radio sales report does not include the federal government agencies.

Bob Symons asked the Commission how they would like to have the radio sales reported – by the summary or the full spreadsheet listing all of the sales by purchasing agency. The commission felt the summary was sufficient, but wanted to make sure the spreadsheet is available to any commission member to review. Bob Symons stated he would maintain the Radio Sales spreadsheet.

### WyoLink Coverage Position Statement

There are two documents pertaining to the WyoLink radio coverage – The first document is the summary of the coverage and the second document provides the background information. The WyoLink Radio System Coverage summary is posted on the PSCC website. *The WyoLink radio system coverage background document is attached to file copy of minutes.* The WyoLink Radio System Coverage summary is:

The WyoLink radio system is being designed to provide interoperable communications for public safety agencies across Wyoming. Wyoming's Public Safety Mobile Communications (PSMC) Plan was developed by a steering committee representing a broad range of public safety agencies. The plan represents a carefully crafted balance between system requirements based on user needs and system cost.

In considering the coverage provided to a given group of users, composite coverage of all radio sites in and around the operational area must be considered rather than the number of radio sites in the operational area owned by the user agency. A WyoLink project goal has been to improve statewide coverage for public safety users within the State. If improvement is not economically feasible, the project is committed to providing coverage equal to the existing coverage.

In balancing system requirements and system cost the Steering Committee referenced the 95% coverage target on the performance of mobile radios. The WyoLink radio system will provide coverage for portable radios as a function of reaching the mobile radio target. Portable radio coverage will not be as extensive as mobile radio coverage but should typically be better than current portable radio coverage in most cases. As the WyoLink system is constructed the coverage provided for portable radios will be evaluated and compared against existing portable radio coverage. Testing of a given area will be conducted and evaluated upon optimization of all WyoLink sites that could impact coverage for that area

#### Administration and Information – PSCC Proposed Budget

Bob Symons presented the proposed budget that was prepared for the Public Safety Communications Commission through Administration and Information. Earl Atwood and Bob Symons worked on the budget preparation. The proposed budget has been submitted to the Governor's Office.

The standard budget request is for **\$5,760** from the General Fund. This request includes the quarterly commission meetings, working group meetings, and development of operating rules and regulations for the WyoLink network.

The exception budget request is a new request for general funds that has six (6) priorities.

Priority 1 is a staff support position to support the Commission's mission – classified salary - \$108,116 and employer paid benefits - \$24,000 for a **total of \$132,116**.

Priority 2 is for travel and per diem for the PSCC staff support PSCC Commissioner travel reimbursement and regional planning/training events for a **total of \$11,600**.

Priority 3 includes the subscriber training and contract management for WyoLink user training on a state-wide basis for a **total of \$13,000**.

Priority 4 covers the printing costs to produce copies of meeting minutes, regulations and research for use by the PSCC Commissioners for a **total of \$2,500**.

Priority 5 includes a notebook PC and related software for the new staff support position for a **total of \$4,000**.

Priority 6 for communications includes the LeaderPhone audio conferencing, network fees, and phone charges for a **total of \$4,800**.

**The total budget request for the 2007/2008 biennium is \$173,776.**

There was discussion from the Commission on whether the proposed budget for Priority 3 – Training was adequate. This request should be reviewed and if needed should be added to make sure that the training can be completed. Training has been problematic with the other states that have a state-wide radio system and we need to make sure the training budget is adequate.

#### Kelly Hamilton Presentation

The Public Safety Communications Commission presented Commissioner Kelly Hamilton with a plaque for his good work as the first chairman of the PSCC and his work on the steering committee. The plaque states: "Presented to Kelly Hamilton in recognition of your outstanding contributions and leadership in furthering public safety radio communications in Wyoming – September 13, 2005" Kelly spoke of his involvement with the PSCC and how important this project is to him personally. Bob Symons thanked Dan Perko, Wyoming APCO Chapter, and Andrea Schierwagen, PSCC Intern, for their work on getting the plaque for Commissioner Hamilton.

#### PSCC Strategic Plan

Bob Symons presented the working draft of the Strategic Plan for the PSCC. This working draft will need to be finalized and it was recommended the Executive Committee complete the plan. Chairman DeCecco asked that the Commission Members review the working draft of the Strategic Plan and get comments back to Bob Symons or Earl Atwood by the end of September. Commissioner Narva stated there are three over-arching questions that need to be answered by the strategic plan – What is it that we do? How well do we do it? Is anybody better off? Discussion on the Strategic Plan. The Commission felt that the completion of the Strategic Plan was vital for the Commission.

## PSCC Commissioner Status

There is a vacancy on the PSCC for a Tribal Representative. Commissioner Narva stated that a draft letter to the Wind River Indian Reservation Joint Tribal Council requesting their assistance in filling the Tribal Representative is being worked on and the final letter will be sent soon. Bob Symons informed the Commission on the memorandum of understanding (MOU) that the Joint Tribal Council has signed that will allow for radio sites on the Wind River Indian Reservation. Tom Mahon spoke on the meeting with the Tribal Representatives on the MOU and thanked the Tribal Law and Order Chief for his help in describing the advantages of WyoLink to the reservation and helping secure the MOU.

## Executive Committee

Chairman DeCecco has met twice in the last couple of months. The minutes for the August 5, 2005 and August 11, 2005 Executive Committee meetings were given to each Commissioner. The Executive Committee is discussing meeting on a regular basis, at least once between meetings up to maybe monthly. Chairman DeCecco asked if the Executive Committee was meeting the needs of the Commission and if the minutes from the Executive Committee are helping. The minutes from the Executive Committee are and will be sent to the Commissioners as soon as they are prepared after each meeting. *The minutes for the August 5 and 11, 2005 Executive Committee meetings are attached to file copy of minutes.*

## **New Business**

### Frequency Acquisition

Tom Mahon led a discussion on the frequency acquisition for the WyoLink Project. Tom's report on frequency acquisition is attached to the minutes as an addendum. The summary of Tom Mahon's report is:

"It has become evident that the critical process of identifying and licensing radio frequencies has become a risk for the WyoLink project. Though launched before the procurement process and subsequent design work, the pace of deliverables under the existing arrangement hinders the project schedule. The project schedule was accelerated during contract negotiations.

A thorough examination of the process, technical issues and alternatives has been conducted. The process itself was examined and those involved were provided opportunity to comment. Design criteria were reviewed, alternative approaches to spectrum acquisition and options for applying additional resources were considered; schedule and budget issues were also weighed in the evaluation. Chairman Narva, of the PSCC, was apprised of the situation and consulted in reviewing alternatives, as was the Wyoming Chapter President of APCO.

A revised process has been formulated. Critical RF design tasks, wherein project delay had developed, will be consolidated and assigned to a Motorola engineering team. APCO will continue to be involved in the WyoLink Project through frequency coordination and application processing tasks. Furthermore, VHF spectrum outside the "Public-Safety Allocation" (CFR 46, Part 90) will be pursued. The revised process applies additional resources, streamlines engineering processes, expands the range of frequencies under consideration, and is coupled with enhanced technical tools. While representing a cost increase, the resulting process greatly reduces project risk and insures the project will meet its objectives.

Execution of the process will be completed upon the final review of the Statement-of-Work and Change-Order documents. This will occur within 5 business days. An orderly transition is anticipated, which will retain the value of work completed thus far."

The conclusion, according to Tom Mahon, is: "The WyoLink project is best serviced by delegating to Motorola responsibility for the frequency acquisition process and conduct of the required engineering processes. Seeking frequencies outside the Public-Safety Allocation and adding contingency funds are justified to mitigate the recognized project risk and assure the project meets its objectives."

Spectrum fingerprinting was discussed. Motorola has already been contracted to provide this service. It was noted that contingency funds will be used for the revised Motorola contract and the proposed WyoLink budget has funds delegated for this purpose.

A question was asked about the Motorola contract for frequency acquisition and how that will affect the work being done by Larry Sheridan, WyDOT Telecom, and APCO. The answer was that Motorola would be working with APCO's national office and Larry Sheridan would have a minor role. APCO agreed with the revised plan for frequency acquisition and would continue to honor the pricing discount currently in effect for WyoLink.

**The PSCC meeting recessed for lunch at 12:10 pm and resumed at 1:00 pm.**

#### WyDOT/WyoLink Proposed Budget

Tom Mahon led a discussion on the proposed budget for the WyoLink project. The proposed budget includes the following additions:

Three additional positions – WyoLink Support Manager and two system administrators - \$600,498, Motorola Contract - \$9,005,981, Contingency – 10% of contract - \$900,598, Contingency for 5 additional radio sites (improved coverage) - \$721,598, support contract (Phase 1 warranty ends October 1, 2007) - \$152,849, Master Site Expansion - \$400,000, Spectrum Fingerprinting - \$430,314, Frequency Acquisition Contingency - \$2,500,000. It needs to be noted that if the frequency acquisition funds are not used they will be reverted back into the general fund. Total for these requests is \$14,711,838.

Four priorities were added that would enhance "Local Participation" and designed to support connection of the local public-safety dispatch centers. Priority #1 adds a second zone controller that would also enhance system reliability - \$4,950,000. Priority #2 is adding microwave redundancy and reliability by closing some of the microwave loops - \$6,000,000. Priority #3 is for leased T-1 circuits between the dispatch consoles and the closest microwave site - \$3,600,000. Priority #4 includes funds to help the local dispatch centers upgrade their equipment for connection to WyoLink - \$6,450,000. Total for these priority items is \$21,000,000. The total exception budget request is \$35,711,838. *The proposed WyDOT/WyoLink budget is attached to file copy of minutes.*

#### Annual Report to the Governor

Chairman DeCecco led a discussion on the annual report to the Governor that is required by statute to be sent in October. Chairman DeCecco asked that the Commission members, especially the working group chairman provide information and/or a summary of activities by the end of September for the Annual Report. Earl Atwood and Bob Symons will be the clearinghouse for the comments. The draft report will be developed and sent to all of the Commissioners for review and comments and then the Executive Committee will finalize the report before sending it to the Governor.

#### Committee and Working Group Assignments

Chairman DeCecco asked the Committees to continue working on the projects that they have started. Commissioners Hamilton and Wyatt have not been assigned to a committee and after review of the



committees/working groups they need to let Chairman Narva know which working group they would like to be considered for.

Jim Archerd, Wyoming Homeland Security, has been appointed to the WyoLink Operations Work Group and the Inter-Operability Executive Committee as a subject matter expert by Chairman Jim Narva.

### **General Discussion**

Commissioner Joiner brought up the fact that as agencies migrate from VHF to 700 MHz or 800 MHz radio systems, they are to relinquish their VHF frequencies and those frequencies could be used by WyoLink. Commissioner Joiner wanted to make sure everyone knows that the transition to trunking and narrow-banding will create a training issue that the Commission must address.

South Dakota has produced a training CD that is being reproduced and will be sent to all of the Commissioners. Tom Mahon has permission from South Dakota to reproduce the CD. The CD targets the end users of the radio system that includes information on the trunked system and radio operations.

A question was raised about the re-programming of the SALEC radios and if that process is continuing. WyDOT telecommunications will be working with the SALEC subscribers to complete the process once the frequencies are defined. The impact to the Mutual Aid frequency users will not change because the Mutual Aid simplex frequency will be maintained and if the agencies wish to upgrade to the repeated Mutual Aid frequency, then those radios will need to be programmed at the expense of the agency.

It was stated that WyoLink, when operational will change how agencies do business. The trunked system will add many features that radio users do not have today.

Bob Symons recognized the good work of Andrea Schierwagen as the PSCC Intern. Andrea did a great job of updating the PSCC website and the newsletter. The newsletter was sent to every fire department, police department, legislators, cities, counties, sheriff's offices, ambulance services and many state agencies. The Commission asked Chairman Jim Narva to send Andrea a thank you letter for her accomplishments as the PSCC Intern.

Get well wishes were sent to Tim Gwinn – E.F. Johnson and Earl Atwood for their speedy recovery.

### Next Meeting

Discussion on the next meeting. The meeting will be held in Cheyenne on Tuesday December 13, 2005. Bob Symons and Earl Atwood will work on a location for the meeting.

Being no further business, Chairman DeCecco adjourned the meeting at 1:55 pm.

Respectfully submitted,

Robert J. Symons  
Administrative Support

## Action Items

1. The committee will continue working on these drafts and have a goal to present the drafts to the Commission in December. (Inter-Operability Executive Committee)
2. Bob Symons stated he would maintain the Radio Sales spreadsheet.
3. Chairman DeCecco asked that the Commission Members review the working draft of the Strategic Plan and get comments back to Bob Symons or Earl Atwood by the end of September.
4. Commissioner Narva stated that a draft letter to the Wind River Indian Reservation Joint Tribal Council requesting their assistance in filling the Tribal Representative is being worked on and the final letter will be sent soon.
5. Chairman DeCecco asked that the Commission members, especially the working group chairman provide information and/or a summary of activities by the end of September for the Annual Report
6. The draft report will be developed and sent to all of the Commissioners for review and comments and then the Executive Committee will finalize the report before sending it to the Governor.
7. Chairman DeCecco asked the Committees to continue working on the projects that they have started.
8. Commissioners Hamilton and Wyatt have not been assigned to a committee and after review of the committees/working groups they need to let Chairman Narva know which working group they would like to be considered for.
9. South Dakota has produced a training CD that is being reproduced and will be sent to all of the Commissioners.
10. The Commission asked Chairman Jim Narva to send Andrea a thank you letter for her accomplishments as the PSCC Intern.

## **Attachments to September 13, 2005 Minutes**

1. SALECS 2005 Statistics
2. Project Manager's Report System Map
3. WyoLink Coverage Background Information
4. PSCC Executive Committee Meeting Minutes – August 5, 2005
5. PSCC Executive Committee/WyoLink Budget Meeting Notes
6. WyDOT/WyoLink Budget Exception Request

DRAFT

**SALECS 2005 STATISTICS  
JANUARY 2005**

	<b>GAM E &amp; FISH</b>	<b>BRAN D</b>	<b>LIVE STOC K AGEN TS</b>	<b>BLM</b>	<b>STAT E PAR KS</b>	<b>OUT FITTE RS</b>	<b>SDC I</b>	<b>FORES T</b>	<b>OT</b>	<b>TOTAL S</b>
<b>EVENTS</b>	452	127	16	33	10	0	0	24	0	662
<b>TRAFFIC</b>	5597	536	240	441	347	0	0	212	7	7380

**FEBRUARY 2005**

	<b>GAM E &amp; FISH</b>	<b>BRAN D</b>	<b>LIVE STOC K AGEN TS</b>	<b>BLM</b>	<b>STAT E PAR KS</b>	<b>OUT FITTE RS</b>	<b>SDC I</b>	<b>FORES T</b>	<b>OT</b>	<b>TOTAL S</b>
<b>EVENTS</b>	392	122	11	20	13	0	0	43		601
<b>TRAFFIC</b>	5643	530	144	263	239	0	0	424	11	7254

**MARCH 2005**

	<b>GAM E &amp; FISH</b>	<b>BRAN D</b>	<b>LIVE STOC K AGEN TS</b>	<b>BLM</b>	<b>STAT E PAR KS</b>	<b>OUT FITTE RS</b>	<b>SDC I</b>	<b>FORES T</b>	<b>OT</b>	<b>TOTAL S</b>
<b>EVENTS</b>	344	150	18	35	16	0	0	54	0	617
<b>TRAFFIC</b>	3975	697	262	420	244	0	0	424	0	6022

**APRIL 2005**

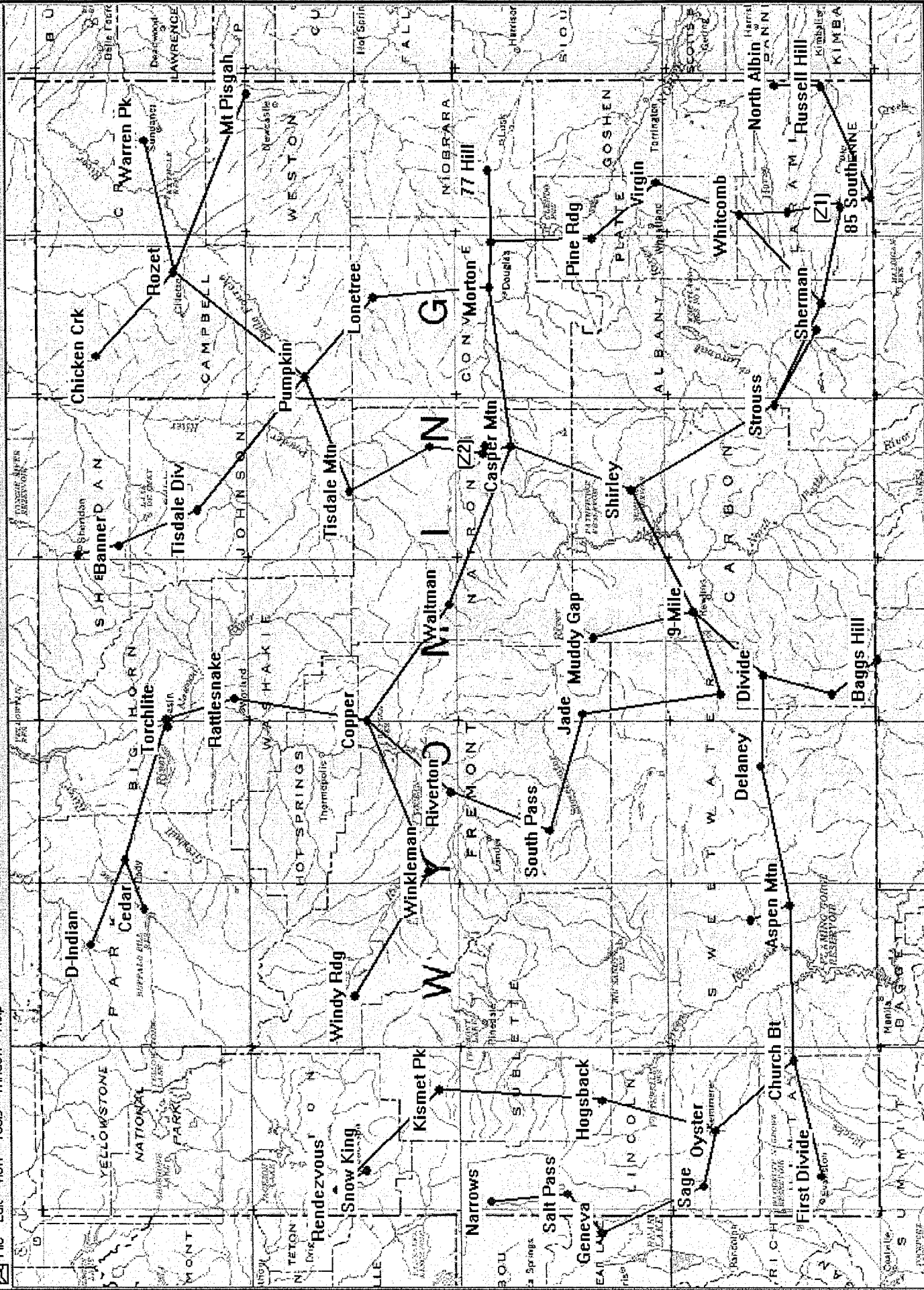
	<b>GAM E &amp; FISH</b>	<b>BRAN D</b>	<b>LIVE STOC K AGEN TS</b>	<b>BLM</b>	<b>STAT E PAR KS</b>	<b>OUT FITTE RS</b>	<b>SDC I</b>	<b>FORES T</b>	<b>OT</b>	<b>TOTAL S</b>
<b>EVENTS</b>	421	247	46	37	72	0	0	41	0	864
<b>TRAFFIC</b>	5019	892	362	364	743	0	0	421	8	7809

MAY 2005										
	GAM E & FISH	BRAN D	LIVE STOC K AGEN TS	BLM	STAT E PAR KS	OUT FITTE RS	SDC I	FORES T	OT	TOTAL S
EVENTS	606	344	25	38	268	0	0	53	0	1334
TRAFFIC	6857	1146	273	393	2616	0	0	470	9	11764
JUNE 2005										
	GAM E & FISH	BRAN D	LIVE STOC K AGEN TS	BLM	STAT E PAR KS	OUT FITTE RS	SDC I	FORES T	OT	TOTAL S
EVENTS	615	369	57	22	264	0	0	16	0	1343
TRAFFIC	5534	1114	459	298	2979	0	0	210	2	10596
JULY 2005										
	GAM E & FISH	BRAN D	LIVE STOC K AGEN TS	BLM	STAT E PAR KS	OUT FITTE RS	SDC I	FORES T	OT	TOTAL S
EVENTS	787	302	46	47	482	0	0	67	0	1731
TRAFFIC	7184	954	321	460	4600	0	0	514	17	14050
AUGUST 2005										
	GAM E & FISH	BRAN D	LIVE STOC K AGEN TS	BLM	STAT E PAR KS	OUT FITTE RS	SDC I	FORES T	OT	TOTAL S
EVENTS	595	310	16	35	280	1	0	30	0	1267
TRAFFIC	7520	1008	199	404	3016	6	0	337	1	12491

[illegible][illegible]

**ANNUAL TOTALS FOR 2005**

	<b>GAM E &amp; FISH</b>	<b>BRAN D</b>	<b>LIVE STOC K AGEN TS</b>	<b>BLM</b>	<b>STAT E PAR KS</b>	<b>OUT FITTE RS</b>	<b>SDC I</b>	<b>FORES T</b>	<b>OT</b>	<b>TOTAL S</b>
<b>EVENTS</b>	<b>4212</b>	<b>1971</b>	<b>235</b>	<b>267</b>	<b>1405</b>	<b>1</b>	<b>0</b>	<b>328</b>	<b>0</b>	<b>8419</b>
<b>TRAFFIC</b>	<b>47329</b>	<b>6877</b>	<b>2260</b>	<b>3043</b>	<b>14784</b>	<b>6</b>	<b>0</b>	<b>3012</b>	<b>55</b>	<b>77366</b>





## **WyoLink Radio System Coverage**

The WyoLink radio system is being designed to provide interoperable communications for public safety agencies across Wyoming. The great advantage of developing a common / shared radio system will be revealed as a public safety responder has direct radio communication while working with a neighboring agency responding to a common emergency. It is an inherent requirement that a shared statewide radio system provide sufficient radio coverage across the entire state, as the entire state is the operational service area; this is the target set for WyoLink.

WyoLink is the result of an extensive planning process. Wyoming's Public Safety Mobile Communications (PSMC) Plan was developed by a steering committee representing a broad range of public safety agencies. The steering committee compared the benefits of various technical options and evaluated the cost of different design solutions. The plan represents a carefully crafted balance of system requirements based on user needs and system cost.

### **WyoLink Technology Impacts Coverage**

Before discussing the requirements of the PSMC plan, it is important to understand that the technology chosen for the WyoLink system differs from current conventional analog systems and will create a different user experience of the resulting radio coverage.

Cell phone technology allows a customer to move from place to place without manually changing channels; the system controls frequency and radio site selection. Using similar technology, a trunked radio system allows a radio user to drive from location to location and the radio automatically registers with the appropriate radio site without user intervention. The talk-group they have selected will follow them from radio site to radio site automatically. Thus, ALL radio sites are available to ALL trunked system users. In considering the coverage provided to a given group of users, composite coverage of all radio sites in and around the operational area must be considered rather than the number of radio sites in the operational area owned by the user agency.

For example, as depicted in the illustration on page 5, while no radio sites are actually to be constructed within Goshen County, the composite coverage provided by the surrounding radio sites should provide a high degree of coverage for Goshen County.

### **PSMC Plan Coverage Target**

The following excerpts define the target for WyoLink radio system coverage and the process used to select the radio sites that will make up the core system:

*"A WyoLink project goal has been to improve statewide coverage for public safety users within the State. If improvement is not economically feasible, the project is committed to providing coverage equal to the existing coverage. User feedback ... and the Project Team approximated radio coverage at about 90% for mobile units resulting in a project target that was set optimistically high at 95% statewide (except Yellowstone National Park) for mobile radio coverage." (Business Case, page 11; emphasis added)*

*[The] approach for optimizing the mix of sites recognized that existing and planned WyDOT sites would have microwave connectivity and were generally found to be in better overall condition than most other sites investigated. These sites were heavily favored in the site selection process. ... It also maximizes the use of WyDOT towers and microwave network infrastructure, thus avoiding significant additional costs. (Executive Summary, page 4)*

The map on page 6 illustrates the mobile radio coverage predictions for the WyoLink core radio sites. The green areas indicate where sufficient coverage would be provided for mobile radio operation. The white areas represent locations where coverage would be insufficient. Marginal areas are marked in blue. In balancing system requirements and system cost the Steering Committee referenced the 95% coverage target on the performance of mobile radios. As stated, this is an optimistically high target at which the project team is to aim. The contract with Motorola provides for the development of specific radio sites rather than binding Motorola to achieve a specific coverage goal. The WyoLink Project Manager will work in consultation with the PSCC – WyoLink Operations Workgroup to address the percentage goal. This process reduces cost, as compared to requiring Motorola to achieve a percentage goal. The 95% mobile radio coverage target will result in an effective statewide radio communication system.

### **Portable Radio Coverage**

The WyoLink radio system will provide coverage for portable radios as a function of reaching the mobile radio target. Portable radio coverage will not be as extensive as mobile radio coverage but should typically be better than current portable radio coverage in most cases.

The difference in performance between a mobile radio and a portable radio is a function of transmitter power and antenna efficiency. Typical portable radios transmit 5 watts of power while a mobile radio typically transmits 50 watts of power. Likewise, the efficiency of a quality antenna mounted in the center of a vehicle roof is much greater than that of a compact, flexible, “rubber duck” antenna on a portable radio.

As the WyoLink system is constructed the coverage provided for portable radios will be evaluated and compared against existing portable radio coverage. Coverage will be tested using specialized drive-test tools to produce objective measurements. Coverage testing will be conducted for each site along with functional communications testing of the composite system. Functional testing of a given area will be conducted and evaluated upon optimization of all WyoLink sites that could impact coverage for that area. Local agencies will be invited to identify specific locations of concern during the testing.

A specific percentage target for portable radio coverage is not defined within the PSMC plan. The PSMC plan does state that, “It was also agreed that approximately 10% of the state (primarily cities and forest areas) had sufficient portable use to warrant portable coverage enhancements” (Business Case, page 21). Six additional radio sites (10% of 57 sites) have been included in the project budget and contract with Motorola to address this requirement. The PSCC WyoLink Operations Workgroup will direct the allocation of this contingency in consultation with the WyoLink Project Manager. Local agencies will be consulted and involved in the decision process.

### **Coverage Enhancement**

It is recognized that the statewide radio coverage target of the WyoLink system will not fully address the operational requirements for all agencies, particularly in terms of portable radio coverage and in-building portable radio coverage.

Multiple technical approaches are available to address such operational requirements, each being appropriate to specific circumstances, with each representing specific costs and technical issues.

Portable radio coverage enhancement options include:

- Additional radio sites, using individual frequencies
- Simulcast operation, where multiple sites use the same frequencies
- In-vehicle repeaters, which allow a portable radio to communicate through a mobile radio

- Fixed single channel repeaters that link to WyoLink
- Outdoor bi-directional amplifiers, called 'Micro-sites'

In-building portable radio coverage enhancement options include:

- Additional radio sites located close to or within the building complex
- Indoor bi-directional amplifiers and distributed antenna systems, which bring the signals into the building

A clear sequence defines the process of selecting an appropriate portable radio coverage enhancement. First, the specific operational requirement must be defined. The cost and benefit of options must then be evaluated in relation to available funding. Only then can the correct solution be clearly specified. The WyoLink system development contract with Motorola provides that all governmental agencies within Wyoming may purchase equipment and services under the terms and conditions of that agreement and the discount structure defined therein. This provides the benefits of the WyoLink procurement process to all WyoLink user agencies.

**PSCC Executive Committee**  
**August 5, 2005**  
**Minutes**

Chairman Jim Narva called the meeting to order at 9:00 am in Earl Atwood's Office, Emerson Building, 2001 Capitol Ave, Cheyenne, WY.

Attendees – Jim Narva – Chairman, Steve DeCecco – Vice Chairman (Phone), Jerry Kennedy – Secretary (Phone), Earl Atwood – Executive Director, Robert Symons – PSCC Administrative Support and Tom Mahon – WyoLink Project Manager.

**New Business**

Chairman Narva related the information from a meeting held on July 18, 2005 that included Tim Hibbard, Rob Wilson and Larry Sheridan from WyDOT, Tom Mahon – WyoLink, Gary Caparillo – Motorola and Jim Narva. The meeting was to discuss the acquisition of frequencies for WyoLink. The acquisition of VHF frequencies is vital to the success of WyoLink. Larry Sheridan has been the main contact for the acquisition of frequencies for WyoLink.

Tom Mahon related the importance of frequency acquisition and how spectrum fingerprinting, frequency spacing and inter-modulation must be considered for the VHF sites. It was recognized during the planning process that the frequency acquisition would be the most significant challenge to the project. The solution to the problem will take time and money to solve.

Five issues were discussed pertaining to alleviating the problem. Motorola has been contacted to provide an estimate on spectrum fingerprinting services that will involve all sites. This service will provide a data base identifying which frequencies have no activity on each site and a reality check of theoretical data from the FCC databases. The next four solutions include the acquisition of frequencies through the trading of frequencies, frequencies from agencies that migrate to WyoLink, allocations from other spectrums – marine, business and/or paging, and spectrum purchases.

Each of these solutions will involve a lot of time and could become a budget issue for the purchase of spectrum. The frequency procurement process and the pursuit of alternative spectrum will require the addition of one full-time equivalent position. This individual will be heavily involved in the overseeing the entire frequency acquisition process, analyzing data, researching and pursuing alternative spectrum and negotiating frequency trades.

The scope of work/position description is being drafted by Tom Mahon for an At-Will-Employment Contract (AWEC) position. The WyoLink contingency funds

could be used to help offset the cost of the AWEC. Additional funds have been allocated to the frequency acquisition process in the current draft budget being prepared by WyDOT. Tom Mahon has a couple of resumes for people interested in the AWEC position. The Executive Committee recommended to Tom Mahon that he continue on this proposed course. WyDOT will have a preliminary budget meeting pertaining to WyoLink of August 11, 2005

The Executive Committee changed the September 13, 2005, PSCC meeting to Casper. Casper is a central location which will limit the travel and time that the Commissioners will need to attend the meeting, thus reducing the costs for the participants. Bob Symons will work on the logistics for the meeting and will notify the PSCC of the location.

Earl Atwood led a discussion on the Administration and Information budget that will include funding for one full time position and operating costs for the PSCC.

Chairman Narva adjourned the meeting.

Respectfully submitted,

Robert J. Symons  
Administrative Support

WyoLink Budget Meeting  
PSCC Executive Committee and WyoLink

Attendees: Jim Narva, Jerry Kennedy, Steve DeCecco (Phone), Rob Wilson – WyDOT, Tom Mahon – WyoLink, Bob Symons and Andrea Schierwagen

Discussion on proposed WyoLink budget for Biennium 2006/2007. Tom Mahon submitted the attached proposed budget. Budget highlights are:

Phase 3 & 4	\$9,005,981
Contingency 10%	\$ 900,598

Spectrum fingerprinting services provided by Motorola to help in determining usable frequencies for tower sites – 57 sites - \$430,314.

Additional frequency acquisition contingency for possible frequency trading and radio re-programming, spectrum purchasing, and frequencies in spectrums other than public safety - \$2,500,000.

Additional system development costs:

Support Contract – Phase one warranty ends October 2006 - \$152,849

WyoLink Support Manager – One full time equivalent (FTE) - \$115,601

WyoLink System Administrators – two positions – 2 FTE's - \$184,648

Options:

1. Second zone controller installed in Casper at the Port of Entry including network connectivity and capability to add an additional 100 connections to WyoLink. Each controller has a capacity of 100 connections – radio sites and/or consoles. Includes radio equipment building with power, back-up power, heating and cooling, and fire suppression system. Tom Mahon will review request for proposal (RFP), Motorola proposal and contract to determine if any of the costs could be or should be part of the original Motorola contract and scope of work. Completion of this request will allow for expansion of users and reliability of system. **Budget request - \$4,950,000.** The Executive Committee supports this request.
2. Microwave reliability enhancements including a southeast Wyoming alternative microwave route and building closed microwave loops in Western Wyoming. The loops will provide alternative microwave routes if any microwave sites experience trouble and become off-line. Tom Mahon will review the budget request for reductions and/or overlap of costs. **Budget request - \$6,000,000.** The Executive Committee supports this request.
3. Microwave connections to all local dispatch centers/public safety answering points to eliminate or reduce the T-1 connection lines to the master and/or zone controllers. The T-1 connection lines will have to be leased from Qwest or another phone company on a monthly basis. **Budget request – 43 dispatch centers @ \$330,000 each for a total of \$12,600,000.** The Executive Committee reviewed three (3) options; 1. – Do Nothing, 2 – support request for \$12,600,00, or 3 – **support the leasing of T-1 lines for connectivity at a maximum cost of \$1,800,000 per year.** This cost would be for all dispatch centers and would be phased in with the completion of the WyoLink phases. The Executive Committee decided to support the leasing of the T-1 lines but inform the Governor and Legislature of the other options.

4. Console updates for the local dispatch centers so they are compatible and ready to be connected to WyoLink upon the completion of each phase. **Budget request – 43 dispatch centers @ \$150,000 each for a total of \$6.450,000.** The Executive Committee reviewed two (2) options: 1 – Do Nothing or 2 – allocate a fixed amount to each locality to subsidize compatible consoles for WyoLink. The Executive Committee decided to recommend the second option – allocate a fixed amount to each local dispatch center for compatible console update..

EXCEPTION BUDGET REQUEST NARRATIVE 0600-0603

0103 Salaries Classified  
0105 Employer Paid Benefits

In an effort to reflect the labor necessary to provide the proper level of service within the WyoLink appropriation, we are requesting 3 additional positions.

	0103 Salaries.....	0105 Benefits
WyoLink Support Manager	\$154,906	\$ 76,296
WyoLink System Administrator	\$123,715	\$ 60,933
WyoLink System Administrator	\$123,715	\$ 60,933
Total Exception 0103 Salaries.....		<u>\$ 402,336</u>
Total Exception 0105 Benefits.....		<u>\$ 198,162</u>

0903 Special Projects

Contract	\$ 9,005,981
Contingency – 10% of Project Estimate	\$ 900,598
Contingency – 5 additional Sites (coverage improved)	\$ 721,598
Additional cost to expand Master Site	\$ 400,000
Spectrum Fingerprinting Services-mitigates risk	\$ 430,314
Additional frequency acquisition contingency	\$ 2,500,000
Support Contract: Phase 1 Warranty ends October 1, 2007	\$ 152,849

**Total Exception 0903 Special Projects .....** **\$14,111,340**

Spectrum fingerprinting services provided by Motorola will help in determining usable frequencies for tower sites. The additional frequency acquisition is contingency for possible frequency trading and radio re-programming, spectrum purchasing, and frequencies in spectrums other than public safety. This contingency will only be spent for frequency acquisition and all unused funds will be returned and not used for other WyoLink projects.



**System Development & Support**

**Local Participation Priority #1: Second Zone Controller at a cost of \$4,950,000**

Second zone controller installed in Casper at the Port of Entry provides additional network connectivity and capability to support local agency participation. This includes radio equipment building with power, back-up power, heating and cooling, and fire suppression system.

**Local Participation Priority #2: Additional Microwave Redundancy at a cost of \$6,000,000**

Microwave reliability enhancements including a southeast Wyoming alternative microwave route and building closed microwave loops in Western Wyoming. The loops will provide alternative microwave routes if any microwave sites experience trouble and become off-line.

**Local Participation Priority #3: Leased T1 circuits, Dispatch to WyoLink Microwave at a cost of \$1,800,000 per year, \$3,600,000 for biennium**

Connect all local dispatch centers/public safety answering points to the master and/or zone controllers. This cost would be for all dispatch centers and would be phased in with the completion of the WyoLink phases. The T-1 connection lines will have to be leased from Qwest or another phone company on a monthly basis. The Executive Committee reviewed three options; 1 - Do Nothing and leave it to localities to determine the best way to connect if they deem appropriate, 2 - support request for \$12,600,000 to connect with WyDOT owned Microwave, or 3 - support the leasing of T-1 lines for connectivity at a maximum cost of \$1,800,000 per year. The Executive Committee decided to support the leasing of the T-1 lines but inform the Governor and Legislature of the other options.

**Local Enhancement Priority #4: Console Upgrade Assistance, 43 at \$150,000 each = \$6,450,000**

Console updates for the local dispatch centers so they are compatible and ready to be connected to WyoLink upon the completion of each phase. **Budget request – 43 dispatch centers @ \$150,000 each for a total of \$6,450,000.** The Executive Committee reviewed two (2) options: 1 – Do Nothing or 2 – allocate a fixed amount to each locality to subsidize compatible consoles for WyoLink. The Executive Committee decided to recommend the second option – allocate a fixed amount to each local dispatch center for compatible console updates.

**Total Exception 0903 Special Projects ..... \$21,000,000**

Total Exception 0903 Special Projects.....\$35,111,340

Summary for 0600-0603

0103 Salaries Classified.....	\$ 402,336
0105 Employer Paid Benefits.....	\$ 198,162
0903 Special Projects .....	<u>\$ 35,111,340</u>

Total Exception Budget Request 0600-0603.....\$35,711,838